the reader to supplement the necessarily brief discussion of such topics. The apparatus for experimental work is well selected, and gives opportunity for typical demonstrations on almost every problem, with a minimum of cost, while many additional exercises are given, for which no special apparatus is needed.

H. C. WARREN.

SCIENTIFIC JOURNALS.

Journal of Physical Chemistry, May. 'The Transference Number of Hydrogen:' by Douglas McIntosh. An attempt to determine the transference number for hydrogen in different circles by the Helmholtz method, using gas electrodes, but it was found that the method is not applicable to gas cells, probably owing to the solubility of the electrode in the electrolytic solution. 'Single Differences of Potential:' by Hector R. Carveth. The conclusion is drawn that the values given by drop electrodes does not give true single differences of potential. 'Acetonechloroform:' by Frank K. Cameron and H. A. Holly. A study of the camphor-like substance discovered by Willgerodt formed by adding potassium hydroxid to a mixture of acetone and chloroform. From the formula of the substance it would appear to be a simple addition-product, but this is shown not to be the case, and it cannot be resolved into its constituents by direct means. While the substance contains water, it is present not as a hydrate, but apparently in a solid solution. Notes on new books, including an excellent review of the last edition of Mendeléef's Principles of Chemistry; Journal Reviews.

THE *Astrophysical Journal* for May, completing the seventh volume, opens with an article by Professor J. Wilsing, of the Potsdam Astrophysical Observatory, which argues that the results obtained by Messrs. Humphreys and Mohler on the influence of pressure on the wave-length of lines in the spectra of the metals can be explained as an effect of damping of the vibrations to which the emission of light is due. Mr. R. H. Tucker, of the Lick Observatory, follows with an article on 'The Correspondence of the Photographic Durchmusterung with the Visual.' Mr. C. W. Crockett, of the Rensselaer Polytechnic Institute, reviews in two articles the caustic of the right parabolic cylinder and the parabolic mirror. Mr. Frank McClean contributes a paper read before the Royal Society on a comparison of oxygen with the extra lines in the spectra of the helium stars, as also a summary of the spectra of southern stars, and Professor H. A. Rowland and Mr. C. N. Harrison contribute the final article on 'Arc Spectra of Zirconium and Lanthanum.'

THE sixteenth volume of the *Educational Review* commenced with the June number, which includes the following articles: 'Harris' Psychologic Foundations of Education,' by John Dewey: 'Scope and Function of Secondary Education,' by Nicholas Murray Butler; 'Teaching European History in College,' by James H. Robinson; Religious Periods of Child-growth," by Oscar Chrisman; 'Better Training for Law and Medicine,' by Charles F. Thwing; The Key to Rousseau's Emile,' by Samuel Weir, and 'Attitude of Massachusetts School Authorties toward a Science of Education,' by John G. Thompson.

SOCIETIES AND ACADEMIES.

THE CHEMICAL SOCIETY OF WASHINGTON.

THE regular meeting was held on April 14th.

The first paper of the evening was read by Dr. Hillebrand and was entitled 'The Volumetric Estimation of Vanadium in the Presence of small Amounts of Chromium, with especial Reference to the Analysis of Rocks and Ores.' When chromium has been estimated colorimetrically, as detailed in a previous paper, the vanadium can, in many instances, be estimated without separation from the chromium by the well-known method of titration with $KMnO_4$. With considerable chromium present the error is increased by the difficulty of getting sharp end reaction, due to the color of the chromic salt and to the oxidizability of Cr_2O_3 in hot solutions, but the author shows how to ascertain and apply a proper correction within certain limits.

The method is especially applicable to rocks, iron ores, clays, coals, etc., in which chromium is seldom an important constituent quantitatively.